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(RE)SHAPING OPEN ACCESS POLICY FOR SCIENTIFIC RESOURCES AT POLISH TECHNICAL UNIVERSITIES: GDAŃSK UNIVERSITY OF TECHNOLOGY PERSPECTIVE

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Abstract

Developing European Open Access policy to scientific resources is one of the most important issues undertaken during the public debate about the future trends in scholarly communication process.

The Open Access landscape is determined by several factors (e.g. mandates). The open mandate: voluntary or mandatory, can be implemented at the institutional, national or international level. It requires scholars to use open repository to deposit results of scientific research funded with public money and research grants.

The current paper reflects European Commission guidelines regarding dissemination of scientific results funded with EU funds together with recommendations at the national level for Polish universities.

The process of preparing and implementing Open Access policy at the institutional level, and the role of libraries in this process were presented on the example of Gdańsk University of Technology in comparison to the other technical universities in Poland.

Gdańsk University of Technology implements a project called Multidisciplinary Open System Transferring Knowledge. The acronym of its name in the Polish language is „MOST Wiedzy”, which means „the bridge of knowledge”.

The repository is a project of an archive of scientific publications, scientific documentation, research data, scientific dissertations, as well as other documents and sources, created as a result of scientific experiments and other research and development work conducted at the Gdańsk University of Technology. It will also be a solution supporting communication between researchers and a platform for cooperation between science and business.

Keywords: Open Access, open mandate, OA policy, repository, Gdańsk University of Technology, MOST Wiedzy, European Commission, EU funds, libraries, scientific resources, scholarly communication

Open Access

Open Access (OA) was defined in three influential public statements: *the Budapest Open Access Initiative* [BOAI, 2002], the *Bethesda Statement on Open Access Publishing* [Howard Hughes Medical Institute, 2003], and the *Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities* [Max Planck Gesellschaft, 2003].

The above mentioned declarations also state that to make the work OA, the copyright holder must consent in advance to let users copy, use, distribute, transmit and display the work publicly and to make and distribute derivative works, in any digital medium for any responsible purpose, subject to proper attribution of authorship [Max Planck Gesellschaft, 2003].

According to Peter Suber, one of the pioneers of OA movement: “the basic idea of OA is simple: make research literature available online without price barriers and without most permission barriers” [Suber, 2012].

There are many ways to implement OA, e.g. personal web sites, blogs, wikis, databases, discussion forums and P2P networks. However, two of them have been adopted as main OA tools: open journals and repositories.

The OA movement uses the term “gold OA” for OA delivered by journals, regardless of the journal’s business model, and “green OA” for OA delivered by repositories.

Those two types of OA require different steps from authors. To make new articles gold OA, authors simply submit their manuscripts to OA journals and to make articles green OA, authors deposit their manuscripts (published in any scientific journal) in an OA repository [Suber, 2012].

By default, new deposits in OA repositories are OA. Most repositories today, however, support so called “dark deposits”, which can be switched to OA at a later date (this depends, among other things, on the embargo of publishers).

Taking into account the rules for access to OA resources, we often talk about two types of access: “gratis” and “libre”.

Gratis OA is free of charge. It removes price barriers but not permission barriers. Libre OA is free of charge and also free of some copyright and licensing restrictions. It removes price barriers and at least some permission barriers.

Open policy vs. mandate

OA policies could be simply divided to 1) voluntary and 2) mandatory. The first one requests or encourages OA. The second one, a stronger kind of policy, requires OA or makes it the default for new work. Request or encouragement policies usually ask faculty to make their work OA, or recommend OA for publications. Sometimes they are called resolutions or pledges rather than policies. These stronger policies are usually called OA mandates [Suber, 2012].

On the principles of OA to scientific publications, policies should refer to OA definition from *Berlin Declaration* and its conditions have to be met. Therefore, OA policies are quite hard to be implemented and thereby many policies allow much weaker conditions.

Peter Suber lists three basic types of green open mandates:

1. Loophole mandates – require green OA except when the author’s publisher does not accept such a solution.
2. Deposit mandates – generally depend on publisher permission for OA, just like loophole mandates. The difference is that they require deposit even when they cannot obtain permission for OA.
3. Rights-retention mandates – require deposit in an OA repository as soon as the article is accepted for publication, just like deposit mandates. Additionally, they add a method to secure permission for making the deposit OA. There is more than one way to secure that permission.

At some funding agencies like Wellcome Trust in US, when grantees publish articles based on their funded research they must retain the nonexclusive right to authorize OA through a repository. However, such rules are difficult to implement in the Polish legal system [Suber, 2012].

Many OA policies are crossbreeds rather than pure types.

European open policy

The European Commission (EC) has been implementing OA to research results from projects funded by the European Union (EU) since 2006. Initially, the Commission introduced recommendations, followed at the later stage with pilot OA programme within Seventh Framework Programme (7FP) .

The beneficiaries financially supported in several areas (e.g. energy, health, humanities and social science) were obliged to publish the results of their research in OA repositories within 6- or 12-month period depending on the scientific field they represented. In recent years a number of other documents and analyses have been created highlighting the advisability of implementing OA to research output and scientific publication. Finally, the EC adopted *Commission Recommendation of 17 July 2012 of access to and preservation of scientific information* [European Commission, 2012a]. In the document EU states precisely the policy on OA and provides guidelines for Member States.

The Recommendation refers to the priorities defined in the strategy document *Europe 2020* [European Commission, 2017a] issued by the Commission, especially focusing on two documents which present objectives in a more detailed way – *The Digital Agenda for Europe* [European Commission, 2014] and *Innovation Union* [European Commission, 2010]. According to the initiative OA to scientific publications and research output financed by public means should be promoted. What is more, access to scientific publications should be the general principle of the projects financed from EU framework programmes for research.

The EU's new research and innovation programme for 2014-2020 – Horizon 2020 – introduces crucial changes in the area of promotion and dissemination of research results. Horizon 2020 contains requirement of open dissemination of research results in the form of scientific publications or pilot programme for dissemination of raw research data [European Commission, 2017b].

On July 17th 2012, the European Commission adopted the scientific information package consisting of a *Communication Towards better access to scientific information: Boosting the benefits of public investments in research* [European Commission, 2012b] that sets out OA policy objectives for the research funded by the Commission through Horizon 2020. At the same time the Commission adopted also *Recommendation on access to and preservation of scientific information* [European Commission, 2012a] mentioned above, directed to the Member States. Together, these two initiatives feed into the wider context of achieving a European Research Area.

The Amsterdam Call for Action on Open Science [Netherlands' EU Presidency, 2016] was presented at the *Amsterdam Conference – From Vision to Action* hosted by the Netherlands' EU Presidency on 5th April 2016. The Call formulates twelve action items striving for full OA for all scientific publications and a new approach for optimal reuse of research data in European research centers. The idea of OA was one of the main priorities of the Dutch presidency in EU.

Open Access in Poland.

On 30th January 2004 the representative of the Polish Government signed *Declaration on Access to Research Data From Public Funding* issued by Organisation for Economic Co-operation and Development (OECD). This act was the first signal of support for the idea of OA in Poland. The Declaration was supposed to introduce effective mechanisms to ensure common access to research output financed by public means.

In subsequent years a number of events were organised at the initiative of academic and library organisations. On 26th April 2007, on behalf of the Polish academic world, Conference of

Rectors of Academic Schools in Poland (CRASP) adopted a resolution on general access to scientific publications. CRASP and Polish Academy of Sciences on 5th July 2013 adopted the common position on the principles of OA to scientific and educational publications. Both bodies have fully taken on board the recommendations of the EC of 17 July 2012 on OA. Building repositories was the preferred course recommended by the Commission. At the same time authors of publications were recommended to apply the rule of licensing on non-exclusive terms.

The legislative work at national level and public consultation lasted a few years. The action, however, did not result in adopting of any legal act. In September 2015 Polish Ministry of Science and Higher Education issued *Direction for the development of open access initiative to scientific publications and research output* [Ministerstwo Nauki i Szkolnictwa Wyższego, 2015]. In the document the strategy of OA to scientific content was adopted. The *Direction* presented the guidelines of the OA policy in Poland in terms of access to scientific research and research output for the research funding bodies (e.g. NCN – National Science Centre Poland, NCBR – the National Centre for Research and Development), research units, academic schools and publishers. According to the policy it is recommended to publish scientific publications within OA, disseminate the research data openly, establish repositories and carry out training courses on OA. In compliance with the recommendations the research funding institutions as well as academic schools and research units should define their own terms for OA publishing obliging scientists to publish in OA model.

The Ministry encourages both OA routes – green and gold. However, the main emphasis is on self-archiving scientific output in repositories. Polish institutions were strongly advised to invest in developing infrastructures (such as repositories) and creating a community strategy for opening up scientific results.

The OA policy will be implemented in line with the Ministry's plans gradually – initially the original assumptions will be realised in the form of recommendations, subsequently OA will be made obligatory. In February 2017 Polish Ministry of Science and Higher Education sent an open letter, in which the Ministry recommended OA to scientific resources. In the document the Ministry calls on the heads of scientific units and academic schools' authorities to implement the Ministry's recommendation in the area of OA.

Open Access at Polish universities

In May 2017 a phone survey was carried out concerning open mandates and OA policies in 54 state universities. The study was based on best university rankings published in "Perspektywy", a monthly journal that posts a table of the top Polish universities (which did not include the private universities).

The survey covered 22 general universities, 21 technical universities and 11 medical universities. Among the 54 surveyed universities, 17 created institutional repositories which make 32% of the global number of higher education institutions.

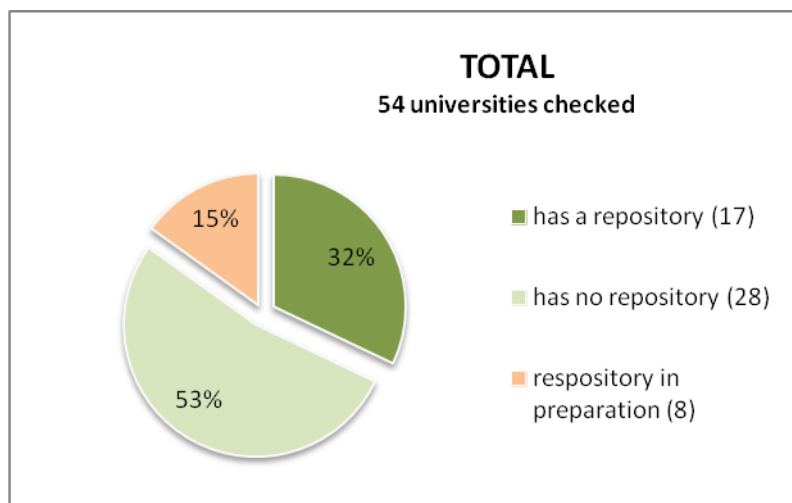


Fig. 1 Total number of universities and institutional repositories

10 repositories belong to general universities (46% of the global number of schools of that kind), 7 repositories are established by technical universities (33%), no medical school in Poland has established an institutional repository. Gdańsk Medical University possesses a repository-like collection within the Pomeranian Digital Library. Poznań Medical University has a repository that contains restricted access collections with no OA options. Eight other Polish universities – two universities, three technical universities and three medical schools – are currently working on developing strategies on the necessary measures to implement OA repository and find adequate legislative tools.

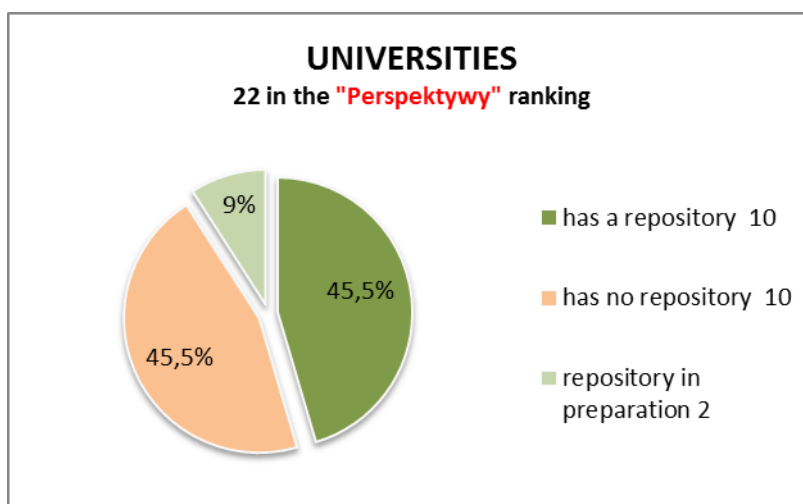


Fig. 2 General universities and their repositories

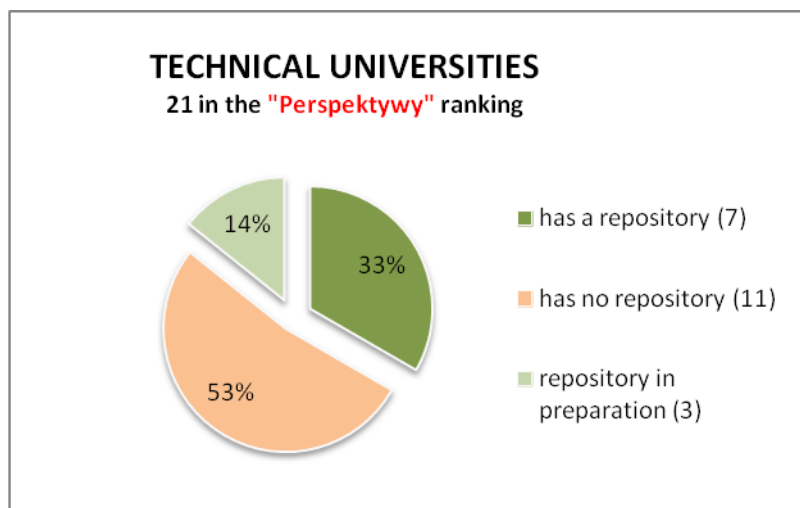


Fig. 3 Technical universities and their repositories

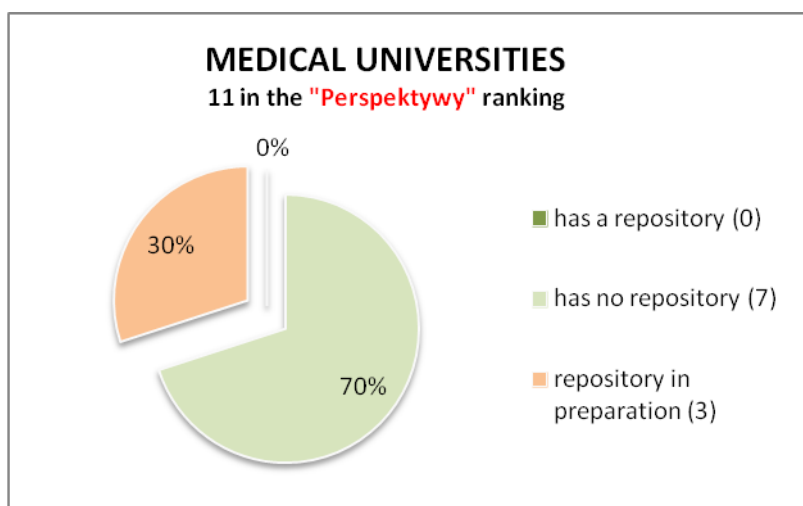


Fig. 4 Medical universities and their repositories

The examination of all the existing legal acts and policies defining the principles of depositing scientific publications in institutional repositories shows a pattern of OA policy and Ministry's recommendations implementation in Poland. None of the above mentioned universities possesses an open mandate. The majority of the directives and regulations come down to recommendations. Four universities make depositing PhD dissertations before the defense compulsory. One university has not issued any legal act regulating principles of giving access to research output through an institutional repository.

Open Access in Technical Universities in Poland

As mentioned above only seven universities out of the number of 21 technical schools included in the university rankings published in "Perspektywy" have open repositories in compliance with legal acts regulating the principles of collection building and availability of content. The ranking of the Polish repositories is shown in the table below:

university	repository	OA policy	publications
Warsaw University of Technology	Baza Wiedzy PW http://repo.bg.pw.edu.pl	Recommendation (2014)	130 650
Cracow University of Technology	SUW – Repozytorium RPK http://suw.biblos.pk.edu.pl	Recommendation (2012)	9 040
Poznań University of Technology	Repozytorium Naukowe PP http://repozytorium.put.poznan.pl	Recommendation (2013)	1 489
Łódź University of Technology	CYRENA http://repozytorium.p.lodz.pl	no	1 182
Wrocław University of Science and Technology	Knowledge Repository http://repozytorium.pwr.edu.pl	Recommendation (2014)	1 073
University of Science and Technology in Bydgoszcz	Repozytorium Cyfrowe UTP http://dlibra.utp.edu.pl	Recommendation (2015)	1 001
Silesian University of Technology	RePolis http://repolis.bg.polsl.pl	Recommendation (2012)	394

Fig. 5 Ranking of institutional repositories of technical universities

As shown in the table above, the number of publications in technical university repositories is still insufficient. It should be emphasized that they employ on average from 1000 to 2500 researchers. Most repositories have already existed for several years and do not have a significant increase in the number of publications.

The implementation work of open repositories is carried out at AGH University of Science and Technology in Cracow (the institution has only an educational resources repository), Military University of Technology in Warsaw and Gdańsk University of Technology.

Open policy of the Gdańsk University of Technology

Gdańsk University of Technology (GUT) takes into consideration and implements the European Union scientific policy requirements.

Since November 2016 GUT has been implementing a project called Multidisciplinary Open System Transferring Knowledge. The acronym of its name in the Polish language is „MOST Wiedzy”, which means „the bridge of knowledge”.

According to project assumptions, all scientific publications written by the employees, as well as some publications written by PhD students and degree students of Gdańsk University of Technology are going to be deposited in the MOST Wiedzy Repository.

It is necessary to prepare and put into force appropriate legal regulations in this area in the form of new resolutions and recommendations of the Rector of GUT (regarding the obligation to archive publications and doctoral dissertations in the Repository). It is also vital to modify the existing resolutions and documents (e.g. the principles for the use of intellectual property of GUT). Both published and unpublished literary output is going to be archived in the Repository.

The OA policy at GUT will be of depository character. All the publications created by the University's faculty will be archived.

By default all the publications will be made OA with open licencing. When a publication cannot be made OA due to some legal aspects, it will be treated as “dark deposit” (the publication will be made OA when the embargo ceases to exist or when there are no other legal objections). Besides, the repository will make it possible to take advantage of “on demand” option. This function will enable the user to send the author a request for permission to get one-time access to a non-OA publication. The obligation to record scientific achievements in the Repository is

going to apply to the staff of GUT employed full- or part-time, irrespective of GUT being their first or subsequent employer, in case a publication is affiliated to the University.

The MOST Wiedzy Repository is going to archive all works produced during employment period at GUT and, in case of PhD students, during their doctoral studies and doctoral thesis. On request, works produced before the employment period or doctoral studies will be deposited as well.

All publications archived in the MOST Wiedzy Repository are going to be exposed in an open way, based on the license granted by authors to the University. It will not apply to cases where authors submit a written request to block the access to some publications due to some legal obstacles (e.g. no consent of the copyright owner, classified content or content for official or internal use only).

The authors will be able to declare a period after which (counting from the moment of depositing their work in the Repository) their paper is going to be made accessible to the public.

MOST Wiedzy Repository will be also used for performing bibliometric analysis and reporting research output of GUT scientific community.

The Repository will be integrated with other databases and information services created in GUT.

It will also be a solution supporting communication between researchers and a platform for cooperation between science and business.

Exposing scientific publications in the OA model will result in an increase in the visibility of research conducted at GUT. It will also have positive influence on the citation level of publications.

Within the platform it is also possible to create authors' profiles. Such profiles shall facilitate finding experts and partners in particular areas.

The role of the University Library

In September 2017 Gdańsk University of Technology Rector issued Ordinance concerning the principles of collection building and availability of research output via the institutional repository. According to the Ordinance the Director of GUT Library – performing also the role of Rector's representative for OA – is responsible for implementation of OA policy.

Depositing publications in the institutional repository will be based on the principle of self-archiving in the process of a person's research output registration. Faculty members to register their publication should log in to their account on MOJA PG platform (MY GUT) where they have access to extensive library of personnel resources procedures. All documents should be uploaded in PDF. A researcher is supposed to choose the type of document s/he wishes to upload – pre-prints, post-prints or publisher versions – and the type of licence for their publication in the repository.

Following the stage of providing the publication's metadata and content in the repository, the publication undergoes verification and validation process. The University Department of Scientific Matters (DSM) is responsible for registration of faculty members' research output, transfer of the data to outer systems (e.g. POL-on – an integrated system of information on higher education, which supports the work of the Ministry of Science and Higher Education, the Central Statistical Office and the Central Commission for Academic Degrees and Titles), verification, validation of the publication's metadata and addition of all valid bibliometric elements. At the same time Library Repository Services Team (RST) check if the publisher's policy allows the deposition of the publication in the institutional repository. Apart from that the RST check the publisher's policy and embargo. They also make sure that the type and format of the uploaded file are correct. Upon approval, the file of the publication and its metadata are transferred to open repository. When it is impossible to make the file accessible instantly, its full-text version remains invisible. MOST Wiedzy platform contains only the metadata, information about embargo and "ask for a file" option directed to the authors themselves.

Summary

Polish Technical Universities establish institutional open repositories. Their number is still insufficient. The majority of repositories provide access to full-text publications. Some of them, however, give access only to metadata or full-text publications in restricted access collections with no OA options only for the logged in users. MOST Wiedzy Repository will allow Gdańsk University of Technology to implement comprehensive OA policy including the open mandate. Thanks to the project the University will take an important step forward in terms of promoting the research output of the university's faculty improving knowledge transfer between research institutions, industry and business sectors across Europe.

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